MEMORANDUM

Missouri Department of Transportation

St. Louis District

TO: **Eric Schroeter**
State Design Engineer

CC: Jim Smith – de
Jon Nelson - tr

FROM: Jeanne Olubogun
District Traffic Engineer

I do hereby attest that in accordance with the requirements of 23 CFR 635.411(c), the use of this patented or proprietary item is in the public interest.

9/3/14
State Design Engineer

DATE: August 22, 2014

SUBJECT: Proprietary Item - Cisco Systems
Proprietary Item Certification Request

With respect to the noted projects, we request approval of certifying in the public interest to use communications network equipment manufactured by Cisco Systems:

J6Q2343F – ITS Maintenance
J6Q3060 – ITS Maintenance
J6Q3001 – CCTV Additions
J6Q3077 – CCTV Additions
J6Q3076 – Rt. 30 Jefferson County ITS Additions
J6Q3084 – DMS Additions

These projects include the deployment and upkeep of intelligent transportation system (ITS) equipment including CCTV cameras, dynamic message signs (DMS), detectors, and the communication systems. The projects will also include the installment of end of life and new network equipment including network Layer 2 and Layer 3 switches used to facilitate ITS device communications to the Gateway Guide system.

CISCO NETWORK EQUIPMENT

Based on the evaluation of the current system and Cisco network equipment in place within the MoDOT central office and St. Louis District, and a consideration of the integration risks associated with using other non-Cisco products, the St. Louis District of the MoDOT respectfully requests to use the following Cisco network equipment for this project as shown on the attached listing.

Existing Cisco Deployment
Currently, the above referenced Cisco equipment is being utilized across the St. Louis District's ITS network to facilitate device and backhaul communications in to the Gateway Guide ITS system. On past projects, the MoDOT have provided the Cisco network equipment as part of the

Commission furnished items on each contract. Throughout the system, Cisco Layer 2 switching equipment (Cisco IE 3000) is used to transport device communications to Node locations strategically located throughout the region. These Node locations use Cisco Layer 3 switch equipment (Cisco 3750), as well as SONET multiplexing equipment (Cisco ONS-15454) to backhaul device communications to the Transportation management Center (TMC) located in Chesterfield, MO.

Integration with Current System

To ensure continuity of the MoDOT's communication network, it is requested that Cisco network equipment be used. These projects will include integration of equipment across the District. In addition, integration with existing backhaul equipment at adjacent Node locations may be required to enable redundant communications per the MoDOT's network policy. The work for these projects includes the following tasks:

- Configuring Layer 2 devices at each field cabinet.
- Configuring Layer 3 devices at existing node cabinets for backhaul of communications.
- Configuring SONET multiplexing equipment for backhaul between existing node cabinets.
- Field testing equipment post installation.
- Training staff and maintenance contractor on the use and maintenance of equipment.
- Maintaining spare parts inventory.

Discussion of Alternatives

Research of potential alternatives indicates that other than Cisco equipment, there is not a singular system that reasonably meets the current needs and requirements of the MoDOT's backhaul communications network. There is industry standard switching equipment that would meet specifications, but would require substantial integration with existing Cisco equipment found elsewhere in the network. This would require additional resources of staff and budget to complete this deployment and integration within a reasonable amount of time. It would also require an increase in staff training for deployment of a new vendor's product and on-going maintenance. Other vendor's products may have interoperability issues when administering protocol that may be proprietary to Cisco found elsewhere on the MoDOT's ITS network. Reconfiguring the current system to allow for a 3rd party vendor protocol to be interoperable would require a significant undertaking and is not recommended.

The current purchasing contract Office of Administration has with the prime vendor of Cisco equipment (see attached) includes the following statement:

> "Cisco has been established as the statewide standard manufacturer for networking products by the State of Missouri. Expansion of all existing networks shall utilize Cisco products."

In conclusion, if another vendor's product is deployed anywhere on our network, the cost to procure, integrate, and maintain the communication equipment is expected to be significantly more than the Cisco products proposed above, in addition to be a violation of existing Office of

Administration contracts. Additionally, the system deployment for these projects represents a small system expansion in comparison to the overall St. Louis metro area deployment.

Therefore, it is recommended that Cisco equipment be used for these projects. Approval of this request at your earliest convenience would be appreciated.

Attachments

Approved by:

9/3/14

Eric Schroeter, State Design Engineer — Date